



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,064	04/05/2002	Arno Lange	220952USOPCT	3075
22850	7590	08/24/2007	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TOOMER, CEPHIA D	
			ART UNIT	PAPER NUMBER
			1714	
			NOTIFICATION DATE	DELIVERY MODE
			08/24/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/089,064	Applicant(s) LANGE ET AL.	
	Examiner Cephia D. Toomer	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 8,20-29,32,33,47-50,52-54,69-71,73-77,84,88 and 89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8,76 and 77 is/are allowed.
- 6) ☒ Claim(s) 20-25,28,29,32,47-50,52-54,69-71,73-75,84,88 and 89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the amendment filed June 7, 2007.

The Obviousness-type Double Patenting rejection is withdrawn in view of the terminal disclaimer.

The rejection of the claims under 35 USC 112 is withdrawn in view of the amendment to the claims.

Upon further review of the prior art, it is examiner's position that the combination of references render obvious those claims set forth in the rejection below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20-25, 28, 29, 32, 47-50, 52-54, 69-71, 73-75, 84, 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basalay (US 4,334,085) in view of Cherpeck (US 5,300,701) and Baxter (US 6,562,913).

Basalay teaches that Mannich products are used in lubricant and fuel compositions (see col. 1, lines 18-29). Basalay teaches a Mannich product (see abstract). The product is prepared by reacting a high molecular weight substituted phenol obtained by alkylation of phenol with polybutenes (molecular weight of 200-6000), formaldehyde and a mononitrogen such as dialkyl amines (see col. 2, lines 45-

Art Unit: 1714

58; col. 3, lines 8-24, 35-41; Example I). Basalay teaches that the Mannich adduct may be formed by conventional methods or that an intermediate of the amine and aldehyde may be reacted with the hydroxy aromatic compound. Basalay teaches the limitations of the claims other than the differences that are discussed below.

In first aspect, Basalay differs from the claims in that he does not specifically teach that alkyl group is highly reactive PIB having more than 70 mol% of vinylidene double bonds (claim 1) a polydispersity from 1.1 to 3.5 (claim 5). However, Cherpeck and Baxter teach this difference.

Cherpeck teaches a process for the preparation of PIB substituted phenolic compound wherein the phenolic compound is alkylated in the presence of an acid catalyst (see abstract). The PIB has a number average molecular weight of 300-500 and contains at least about 70% methylvinylidene (high reactive) (see col. 2, lines 37-49). Cherpeck teaches that these PIB compounds are the commercial product ULTRAVIS-10 (molecular weight 950) (see Example 1).

Baxter teaches that highly reactive PIB such as ULTRAVIS possess a polydispersity of no more than 2.0 (see col. 4, lines 12-29, 54-58).

It would have been obvious to one of ordinary skill in the art to have replaced the polybutene of Basalay with a highly reactive polybutene because Cherpeck teaches that employing such a polybutene provides the desired PIB-phenol in significantly higher yield than employing conventional PIB having minor amounts of methylvinylidene and phenols exhibit minimal molecular weight degradation (see col. 4, lines 19-57).

In the second aspect, Basalay differs from the claims in that he does not specifically teach the adduct mixture of claims 31, 78 and 80. However, no unobviousness is seen in this difference because Basalay, Cherpeck and Baxter teach a PIB-substituted phenol that appears to meet the claimed limitations and they teach the same amine and aldehyde reactants. Basalay reacts these components in the same manner as Applicant. Therefore, it would be reasonable to expect that the adducts of claim 4 would be within the scope of Basalay, Cherpeck and Baxter, absent evidence to the contrary.

3. Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

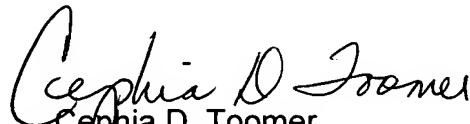
4. Claims 8, 76 and 77 are allowed. The prior art of record fails to teach or suggest the claimed process of preparing the Mannich adducts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Cephia D. Toomer
Primary Examiner
Art Unit 1714

10089064\20070820